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HER/01

20th July 2005

The Administrator
Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
Barton ACT 2600

Dear Sir/Madam,

HEM Nomination for BP Kwinana Oil Refinery Western Australia

We have pleasure in forwarding the original plus three copies of a nomination for the BP Kwinana Oil Refinery to be considered for a Historic Engineering Marker.

We have previously forwarded a Proposal to Plaque to the Plaquing Sub-Committee and received a favourable response.

We have had preliminary discussions with the Owner's representative and reached general agreement, subject to our nomination being successful, to hold a Plaquing Ceremony on or about October 25 next, the 50th anniversary of the official opening of the refinery

Yours sincerely

Tony Moulds
Chairman
Engineering Heritage Panel
Engineers Australia
Western Australian Division

BP KWINANA OIL REFINERY

NOMINATION FOR HISTORIC ENGINEERING MARKER PLAQUE

INDEX

Appendix A Plaque Nomination Form

The Administrator
Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Name of work: BP Kwinana Oil Refinery.....

The above-mentioned work is nominated to be awarded a

~~National Engineering Landmark~~ or an **Historic Engineering Marker** (*delete as appropriate*).

Location, including address and map grid reference if a fixed work:

Mason Road, Kwinana, Western Australia, Lot 14 diagram 74883 Volume 1827 Folio 499.....

.....

Owner (name & address):

BP Refinery (Kwinana) Pty Ltd .....

.....

.....

The owner has been advised of this nomination, and a letter of agreement is attached.

Access to site: .....

.....

.....

Nominating Body: Engineering Heritage Panel WA Division.....

A. Rowlands
.....

Chair of Nominating Body

Date: 22.7.05.

A. Rowlands
.....

Chair of Division Engineering Heritage Group

Date: 22. July 2005

bp

BP Refinery (Kwinana) Proprietary Limited
ABN 54 008 689 763
Mason Road, Kwinana WA 6167
Postal Address:
PO Box 2131, Rockingham WA 6168

Switchboard: (08) 9419 9500
Central Fax: (08) 9419 9800
Internet: www.bp.com.au

Direct Line: 08 9419 9623
Direct Fax: 08 9419 9808
Mobile: 0410 479 412
Email: jordanc2@az1.bp.com

Reference: RA/cj5134
PAF-063 V1

15 July, 2005

Administrator, Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Historic Engineering Marker nomination

Dear Sir/Madam,

This letter accompanies the nomination by the Engineering Heritage Panel of Engineers Australia WA Division for a Historic Engineering Marker plaque, and confirms BP's support of the nomination. Approval by BP for the nomination is based on the understanding that the plaque will not restrict BP's operation of the Kwinana Refinery asset in any way.

I thank you for considering this submission.

Claire Jordan
PUBLIC RELATIONS OFFICER

APPENDIX B

PLAQUING NOMINATION ASSESSMENT FORM

OWNER **BP REFINERY [KWINANA] PTY LTD**

LOCATION

The BP refinery is located within the boundaries of the Kwinana Shire Council, Western Australia. It is situated on Lot 14, Diagram 74883, Mason Road, Kwinana. The registered title is Volume 1827, Folio 499. Refer also to Fig.1.2 in the attachments.

DESCRIPTION OF REFINERY

The BP refinery [Kwinana] is located on a 250 hectare site approximately 40 kms south of Perth. Established in the early 1950's the refinery has been progressively expanded and upgraded to a current throughput of 5.8 million tonnes of crude oil per year, approximately 138,000 barrels [20.67 million litres] per day, depending on operating requirements and crude oil type.

There are 145 storage tanks at BP Kwinana with an overall maximum storage capacity of 1090 million litres. Aviation fuel, bitumen, diesel/fuel oil, hydrogen, kerosene, LPG [including propane and butane], leaded and unleaded petrol are produced. Most products are used within Australia and New Zealand.

BP Kwinana provides cooling water for the nearby Kwinana Nitrogen Company and the CSBP fertilizer plant, sulphur for Coogee Chemicals, hydrogen for BOC Gases Australia and LPG for Wesfarmers and Boral.

A total of 300 staff employees include trades people, civil, chemical, electrical and environmental engineers, process technicians, computer programmers and a wide range of support staff.

The current replacement cost of assets is A$1.7 billion.

Since the opening of the refinery in 1955 the refinery has been extensively expanded and upgraded.

- In 1956 additional storage tanks were constructed.
- A second Catalytic reformer and additional tanks were constructed in 1959.
- Between 1963 and 1964 a new $10 million lubricating oil refinery plant was added.
- In 1966 construction of an ammonium nitrate plant and a nitric acid plant began. Commissioned in 1969 the plant, known as the Kwinana Nitrogen Company

Limited [KNC], was owned by BP and CSBP and Farmers Limited [now Wesfarmers]. BP's 80% stake in the company was transferred to Wesfarmers in 1987.

- A period of major capital works began in 1978 with the re-vamp of the Catalytic Cracker, the installation of a second Propane Production Unit [PPU] and the start of work on an alkylation plant to convert butane to aviation and motor fuel. The plant was commissioned in 1981.
- In 1985 the largest project undertaken since the refinery opened, the upgrading of the Catalytic Cracker to Residue Cracking, was underway. At a cost of $70 million, the project, which allowed the cracking of heavy residues into motor fuel and gas oil components, was completed in 1987. At the same time $20 million was spent upgrading the No. 2 Crude Distillation Plant.
- The following year work began on the centralisation of control systems into a new Central Control Building [CCB] and the installation of a Catalytic Polymerisation Unit.
- The CCB replaced eleven dispersed control rooms with a central location using digital controls instead of the old pneumatic and anologue systems. The task, at a cost of $40 million, was completed in 1989. The Cat Poly turns LPG into motor spirit components.
- Changing environmental concerns prompted the construction, at a cost of $15 million, of a Sulphur Recovery Unit [SRU] in 1989. The SRU recovers sulphur from refinery gas steams and reduces emissions and therefore pollution from the refinery. A second SRU and a second Hydrofiner were commissioned in 1992 to further improve local air quality and to allow the processing of crude oil with higher sulphur content. Combined with the construction the original catalytic reformer, built in 1954-1955, was demolished, as was the original cracker. A revamp to the lubes plant was also underway.
- In 1992 work began on a wastewater treatment plant, to remove contaminants from fresh process water used in the refinery, at a cost of $20 million.. It was commissioned in November 1993.
- In September 1993, the largest expansion of the refinery since its original construction was announced with the letting of a contract for a new continuous catalytic reformer and C5 Isomeristion plant [called CR3 and Isom respectively] worth around $140 million. CR3 and Isom came on line at the end of 1995, and the old CR2 plant, which had been running since 1959, was decommissioned. The investments allowed high octane, low sulphur gasoline to be manufactured.
- A new 80 ML crude tank – Tank 313, was commissioned in 1996, to increase the stability of crude feed to the units. The tank has approximately four times the storage of any of the existing crude tanks. In the same year, a cogeneration plant was built adjacent to the refinery to supply the majority of the refinery's steam and all of its power, with the refinery providing fuel gas for the plant.
- In 1997, the VDU2 [Vacuum Distillation Unit] furnace was upgraded. The project involved an innovative approach whereby the furnace was built on site adjacent to

its final location, and wheeled into position as part of the upgrade. This approach saved time on the overall project.

- A new state of the art in-line mogas [petrol] blender was installed in 1997, replacing the existing rundown blender. The new blender allowed tank components to be pumped from storage into a common header whereby a NIR [near infra –red] analyser could analyse the blended components and predict the final blend properties for the motor spirit.
- In 1998 BP globally committed to reduce its CO_2 emissions to 10% below 1990 levels by 2010. The Kwinana Refinery initiated a campaign to reduce emissions from the refinery by improving energy efficiency. To supplement these reductions, the refinery started a tree planting project in Western Australia. BP in WA has planted over 3.8 million trees between 1998 and 2005, and the project is still going . The trees are planted in the wheat belt region to prevent soil salinisation and help BP to offset its CO_2 emissions.
- New butane storage was installed in 1998, in the form of "bullet" shaped vessels called BB1 and BB2. The two vessels were recycled vessels, obtained from BP Singapore.
- Globally BP became BP Amoco following the merger with the US-based oil company Amoco in 1999. At a cost of $5 million, a new process unit – the Hydro Isom – was installed at the refinery to prepare feed for the Alkylation unit. The Hydo Isom converts butadienes to single olefins, increasing the octane of the alkylate product which goes into petrol and decreasing the manufacture of unwanted waste products. 1999 also saw the decommissioning of Hydrofiner 1, which was in the original refinery unit.
- The new millennium brought 45 years of operation at Kwinana Refinery and a substantial change. Globally BP Amoco acquired Arco and subsequently Burmah Castrol and midway through 2000, BP Amoco was renamed as 'bp' with a new brand expressing new aspirations. One of these aspirations was 'green'. The year 2000 brought cleaner fuels to WA. Sulphur in diesel was reduced to 500ppm [for supply in southern WA], down from 5000ppm and benzene in petrol was restricted to 2%, down from 5%. The refinery began making lead free petrol from January 2000. The original steam boilers were decommissioned, and the neighbouring cogeneration plant supplied all of the refinery's power and steam.
- A new investment, the Clean Fuels Project consisting of new reactors for Hydrofiner 2 and CR3 and a new Cat Cracked Spirit Splitter was commissioned in 2000, at a cost of $25 million. These investments enabled the refinery to make the cleanest fuels in Australia.
- 2001 saw the Kwinana First project, which was a repositioning project to introduce a high level of automation and simplification of operation at Kwinana. Throughout the refinery, hundreds of valves were motorised to allow remote operation from the CCB {Central Control Building] and new computer systems were introduced to simplify day-to-day activities. As part of this upgrade, the refinery control system interface within the CCB was upgraded to a more intuitive and simpler operation - the first major upgrade since 1989.

Across the refinery, fixed fire protection systems consisting of fire monitors and gas detectors were installed. In line with all of the automation, refinery manning numbers were decreased to approximately 300. When the refinery first started up there were 2,500 employees.

- 2001 also saw another move forward in clean fuel production. All diesel was manufactured at 500ppm and benzene in petrol was reduced down to 1%, down from 2% in 2000.
- In April 2002, after 37 years of operation and some 4.5 billion litres of base oil, and thousands of tonnes of associated waxes, lubricant manufacture at Kwinana ceased with the closure of the Solvent Dewaxing Unit, Furfural Unit and the Ferrofiner.

ORIGIN OF BRITISH PETROLEUM

In 1908 the Burmah Oil Company discovered oil in commercial quantities in Persia. The Anglo-Persian Oil Company was formed in the following year to develop the field and work a concession granted by the Persian Government. Burmah Oil Company owned 97% of the shares. The erection and commissioning of an oil refinery in Abadan proved a challenge and the company's finances were stretched. In 1914 the Company sought assistance from the British Government which provided £2 million in extra capital in return for the Company contracting to supply fuel oil to the Admiralty and granting the government a majority shareholding. In 1917 the company acquired the British Petroleum Company, formed in 1906 as a subsidiary of a German oil Company, Europaische Petroleum Union. The BP company provided a ready made marketing arm for the Anglo-Persian Oil Company.

The company was renamed the Anglo-Iranian Oil Company, Ltd. in 1935.

MOVE TO AUSTRALIA

In 1950, despite holding concessions in Qatar, Kuwait and Iraq, Anglo-Iranian's operations were almost all centred on the oil field in Iran. Abadan was the largest refinery in the world, accounting for more than three quarters of the Company's refinery through puts. However, in 1951, in the space of a few months, the Company's operations were nationalised. British personnel and tankers were withdrawn and in July 1951 the Abadan refinery was closed. The Company urgently needed a new direction that included spreading its interests internationally and adopting new oil refining technologies such as thermal cracking, catalyst enhancements and catalytic reforming [platforming].

A refinery in Australia was the result of the restructuring of the Company and a move from the dependence on a single refinery to a spread of other refineries internationally.

A REFINERY AT KWINANA

The fact that Western Australia was even considered as a location for the proposed Australian refinery was due mainly to Sir Russell Dumas, Co-ordinator of Works for the Western Australian Government. Sir Russell [1887-1975], was born in South Australia and graduated in 1909 from the University of Adelaide. He joined the WA Metropolitan Water Supply Sewerage & Drainage Department in 1925. He was nearing the end of a distinguished career in the service of public works engineering in Western Australia when the then Minister for Works, David Brand, heard in early October 1951 that an Anglo-Iranian party was about to visit Australia to find a site for a refinery. Western Australia was not on the party's agenda until Dumas suggested to Brand that with the harbour facility at Cockburn Sound, the equable climate and available land, Western Australia could be a suitable site. Brand took the argument to Cabinet and was told to take Dumas and head immediately to Melbourne to meet the Anglo-Iranian delegation and put WA's case.

Their timing could not have been better. The Anglo-Iranian delegation was feeling rather dejected with their progress in a finding a site on the east coast. They were impressed with the presentation given by Dumas, cancelled plans for a weekend's sightseeing and headed off to Perth.

The WA Government had briefly considered Bunbury, Albany and Fremantle, however the Company's requirements were precise. It needed a large area of land with good load bearing qualities adjacent to sheltered water, wharfage facilities and depths capable of providing for tankers with a draft of over 34 feet 9 inches [10.6 m], up to three million gallons of potable water per day, 1,000 KW of electricity, adequate supplies of local building materials, and assurance of railway and road access. In order to meet these requirements at Cockburn Sound, the Parmelia and Success Banks had to be dredged to around 39 feet [11.9 m], to open up deep water.

The Anglo-Iranian delegation arrived in Perth on 16 October 1951 and called to see Minister Brand the next morning. As a result of the discussions the delegation recommended to its London based Board in favour of Cockburn Sound as a site for the refinery. However there was no finality until late January 1952. Negotiations with State Government departments were urgently commenced as the State sought to define the Company's and its own needs in terms of finance and suitable infrastructure.

There was a feeling that Western Australia's future development hinged on a positive outcome from the Anglo-Iranian visit. One urgent need was to persuade the Commonwealth Government to sell portion of the land facing Cockburn Sound, acquired in 1916 to develop the proposed Henderson Naval Base. This approach was successful and, after long and hard negotiations the Anglo-Iranian and State teams reached agreement on the terms and conditions in time for a special sitting of State Parliament in

March 1952 to ratify a draft agreement to establish a £25 million refinery at Kwinana with a capacity of three million tons of crude oil per annum.

COCKBURN SOUND

Even from the earliest days when Western Australia was known as the Swan River Colony, the potential of Cockburn Sound had been well recognised. In fact the first Fleet sheltered in the lee of Garden Island throughout the winter of 1829 before establishing a settlement on the mainland at Fremantle. The State's first Governor, Captain James Stirling, was particularly impressed with the Sound. Cockburn Sound was deep and the anchorages protected from westerly and northerly winds by Garden Island. Stirling considered that it 'was perfectly secure and available for vessels of the greatest dimensions as well as for any number of them'.

Thereafter Cockburn Sound was extensively used by whaling vessels, and a thriving timber exporting centre grew up at the south end of the Sound at Rockingham, from where a bullock tramway ran eastwards into the forests. However there was only 15 feet of water over the Parmelia Bank and the Success Bank further north. With the advent of larger vessels and the development of the Fremantle Inner Harbour in the late 1890's and early 1900's shipping in Cockburn Sound dwindled to the point of insignificance.

The idea of a secure naval base surfaced again in 1910 when the Commonwealth Government resumed Garden Island and a 10 km strip of land along the coast of the Sound [stretching 2 km inland], for a large naval base, planned by Admiral Sir Reginald Henderson. Works officially commenced in 1913, but dredging for channels through the Parmelia and Success Banks was slow and, despite expenditure of £1 million, the project was abandoned by 1918.

For many years the waters of Cockburn Sound and the sandy beaches were frequented by local fishermen and beachgoers and dominated by the rusting hulk of the wrecked State Shipping Service ship, the *Kwinana.*The ship, an old trading vessel renamed in 1912 after a subdivision of the Kimberley, was apparently the word that a tribe of indigenous people in the area used for 'a young woman' or a pretty woman'. The ship had plied the Western Australian coast as a cattle ship until it met its end in Cockburn Sound. As it rusted away, the surrounding area became known as Kwinana.

Part of the extensive infrastructure development promised by the Western Australian Government as part of the Oil Refinery Industry [Anglo-Iranian Oil Company Limited] Act 1952 was the dredging of a 38 feet [11.6 m] deep channel through Parmelia and Success Banks. A contract for deepening the channel was let in 1952 to Hollandse Aanneming Maatskappy [HAM] and the first dredge arrived to start work in January 1953. The channels were to be dredged in three stages to a final depth of 38 feet [11.6 m]below low water and were to be 500 feet [152 m]wide at the bottom. Timing was tight and the first stage, to a depth of 34 feet [10.3 m], was completed by 1 January 1955, in time for the arrival of the first tanker and the contract was completed by the end of 1955.

CONSTRUCTION OF THE REFINERY

Having decided on the types of process plant and the general layout of equipment, tankage and utilities, the work of detailed design was contracted by Anglo-Iranian to M.W Kellog Company of New York. This company, in turn, employed its British registered associate - Kellog International Corporation - to execute in conjunction with the Kwinana Construction Group and other British and Australian contractors and engineers the actual work of construction. In fact a number of Western Australian engineering graduates joined the supervisory team and gained valuable experience to set them up for their later professional careers.

From the start nothing was left to chance and the project was planned and executed on the scale of a military operation. All of the development work was made possible by the skilful planning of company engineers and chemists in the formative stages.

On January 29, 1953, the Premier, Sir Ross McLarty, turned the first piece of turf to symbolically inaugurate the start of construction.

A 150 acre site facing Rockingham Road and opposite the refinery site was resumed for a construction camp. Under company supervision a small number of American field engineers, supplemented by British and Australian technical staff, built up an effective and harmonious construction force, peaking at 3500, rapidly advancing the construction such that the project was completed three and one half months ahead of schedule. Most of the specialised refinery equipment was imported and at one stage three ships were arriving every week with specialised construction tools, material and equipment. The site had an excellent industrial relations record.

Construction on such a scale was unique in Western Australia and the experience gained by local firms and individuals greatly benefited the State when the rapid industrial expansion commenced in the late 1950's.

COMMENCEMENT OF OPERATIONS

When the bow of the first tanker British Crusader sliced through a gaily decorated floating boom to enter a four mile [6.5 km] dredged channel through the Parmelia and Success Banks at 10.50 am on January 11, 1955 Cockburn Sound was officially opened for large shipping. By 12.15 pm the tanker had berthed at the BP Kwinana jetty ready to discharge a cargo of 15,000 tons of crude oil.

On February 1, 1955, almost two years to the day after the start of construction, refinery Manager D. Barker pressed a button that started the refinery operating. The Kwinana refinery officially went 'on stream'. Oil products were, for the first time, flowing from one of the two crude oil distillation units.

THE OFFICAL OPENING

The official opening of the refinery on 25 October, 1955 was described by the local press as 'one of the happiest historic events ever staged in Western Australia'. Some 5000 guests arrived by bus and car to see the Governor General Sir William Slim unveil a plaque to declare the refinery open. Politicians of both sides of politics were present. A change of government had occurred in 1953 and it was Labor Premier A. R. Hawke who presided at the refinery opening. However he praised the efforts of David Brand and Russell Dumas who were responsible for attracting the project to Western Australia.

At the time of its opening the BP Kwinana Refinery was the largest in Australia, a position it continues to hold today.

CHANGE OF NAME

In December 1954 an extraordinary meeting of shareholders in the Anglo-Iranian Oil Company Limited voted to change the name of the company to British Petroleum. This marked the start of a new era in the company's history. From June 1, 1956, the name of the company responsible for the Kwinana refinery was changed from the Australasian Petroleum Refinery Limited to BP Refinery[Kwinana]Limited.

BUILDING A TOWNSHIP AND COMMUNITY

Whilst the refinery construction was underway a new town was emerging a few kilometres inland. The Government had established a high level Kwinana Co-ordinating Committee to oversee the planning and development of a well planned townsite, to be named Kwinana, to accommodate refinery workers. The State Housing Commission committed to building 1000 houses over a period of three years and the first group, in the locality of Medina, was handed over in May 1953.

By April 1954 about 250 houses were occupied and the population had reached about 1000. Medina residents soon became a community and successfully lobbied to get better amenities for the district. The opening of the Medina Hall on 18 June 1955 was to prove typical of the community activities to take place there over the coming years. The town quickly became a 'BP town'.

ECONOMIC IMPACT OF BP KWINANA REFINERY

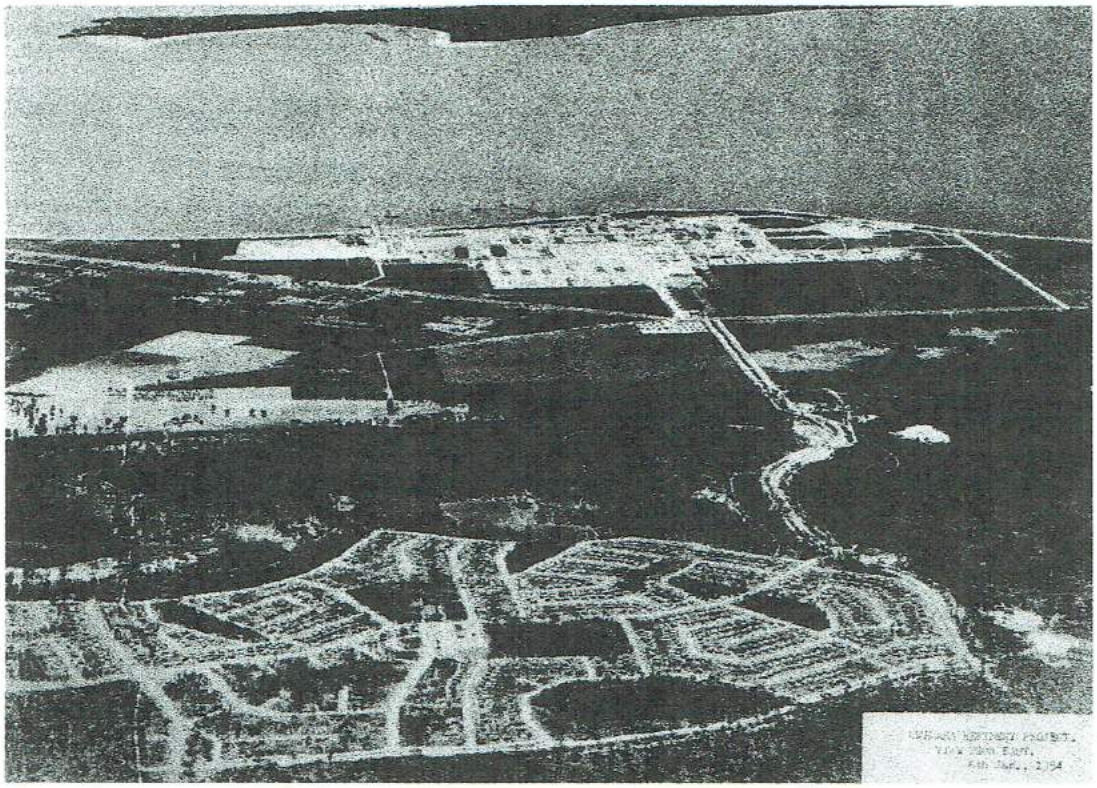
It would be difficult to over estimate the economic impact of the BP refinery on Western Australia's economy over the past fifty years. Over that time BP Refinery has supplied virtually all of Western Australia's requirements for road, marine and aviation fuels, fuel for mining, power and agricultural industries and bitumen for road surfacing.

Since 1955 the exploitation of Western Australia's massive mineral riches, including but not limited to, bauxite (alumina), iron ore, gold, nickel, oil and natural gas, coal and diamonds has made the State a leading contributor to Australia's wealth creation. These developments have required BP products to assist in providing the necessary infrastructure to construct, service and operate the mining facilities.

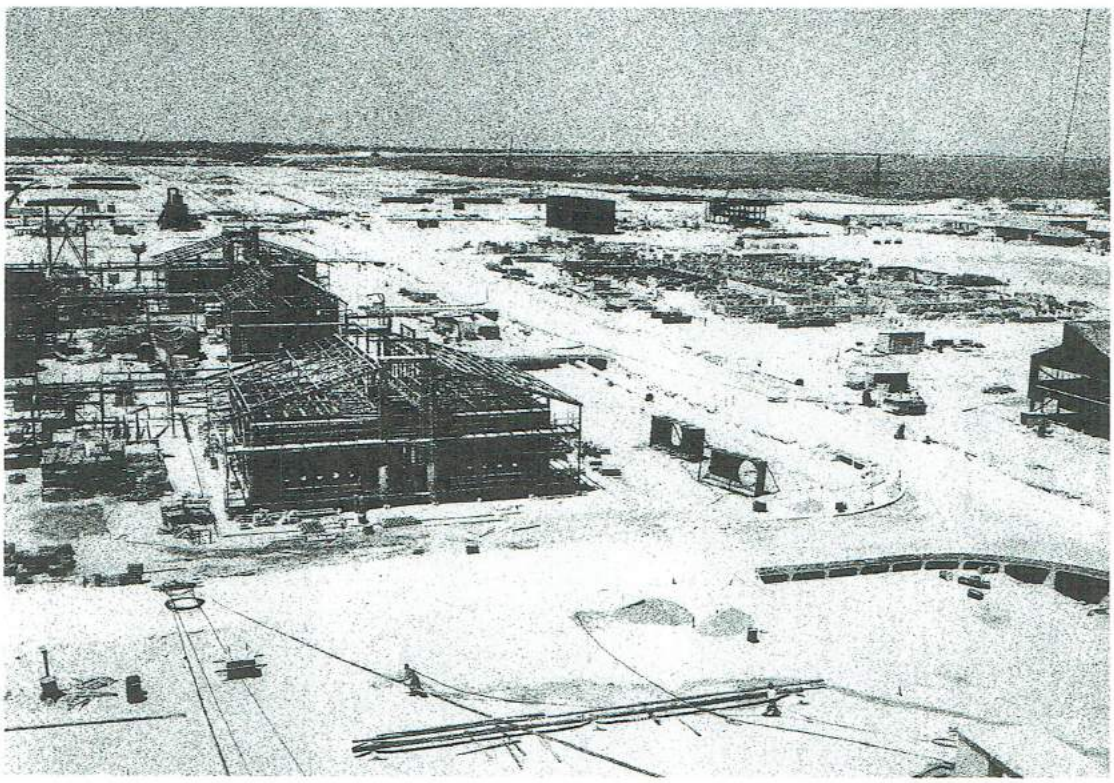
Equally importantly the construction of the refinery and the opening up of Cockburn Sound to large vessels acted as a catalyst for substantial major industrial development in the Kwinana area.Alcoa World Alumina, BHP, Co-operative Bulk Handling Ltd [wheat exporting] and the Fremantle Port Authority [bulk material handling] have all constructed jetties in the Sound. The Commonwealth Government has established a naval base, HMAS Stirling, at Garden Island and a thriving ship building and repair facility and oil platform construction site have been established at Jervoise Bay, north of Kwinana. A report on the Kwinana Industrial Area (KIA) commissioned by the Kwinana Industries Council (KIC) and the Chamber of Commerce and Industry of WA (CCI), a **Kwinana Industrial Area Economic Impact Study April 2002,** prepared by Sinclair Knight Merz, listed 33 major industrial plants which have been established in the KIA up to 2002. Refer to Attachment 1, Fig. 1.1, a list of these plants; a map, Fig. 1.2, showing the location of most of these industries. Fig. 3.4 shows the integration of these industries with BP Kwinana Refinery and each other.

PHOTOGRAPHS

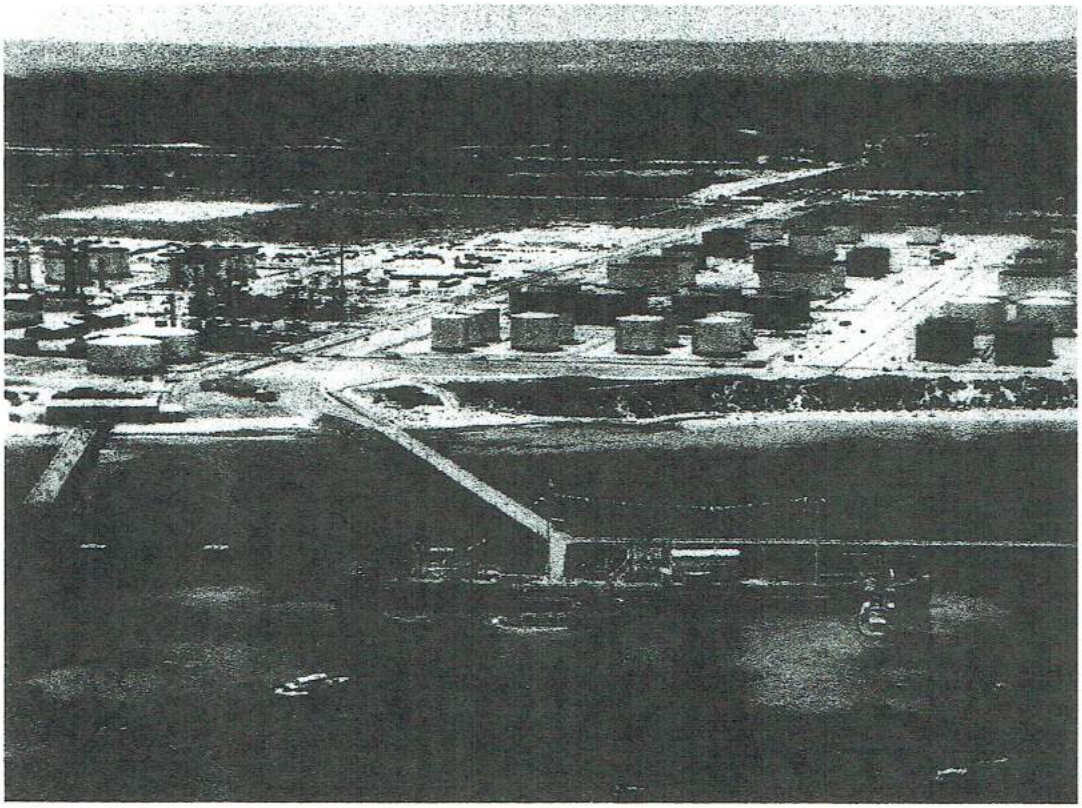
To follow on succeeding pages



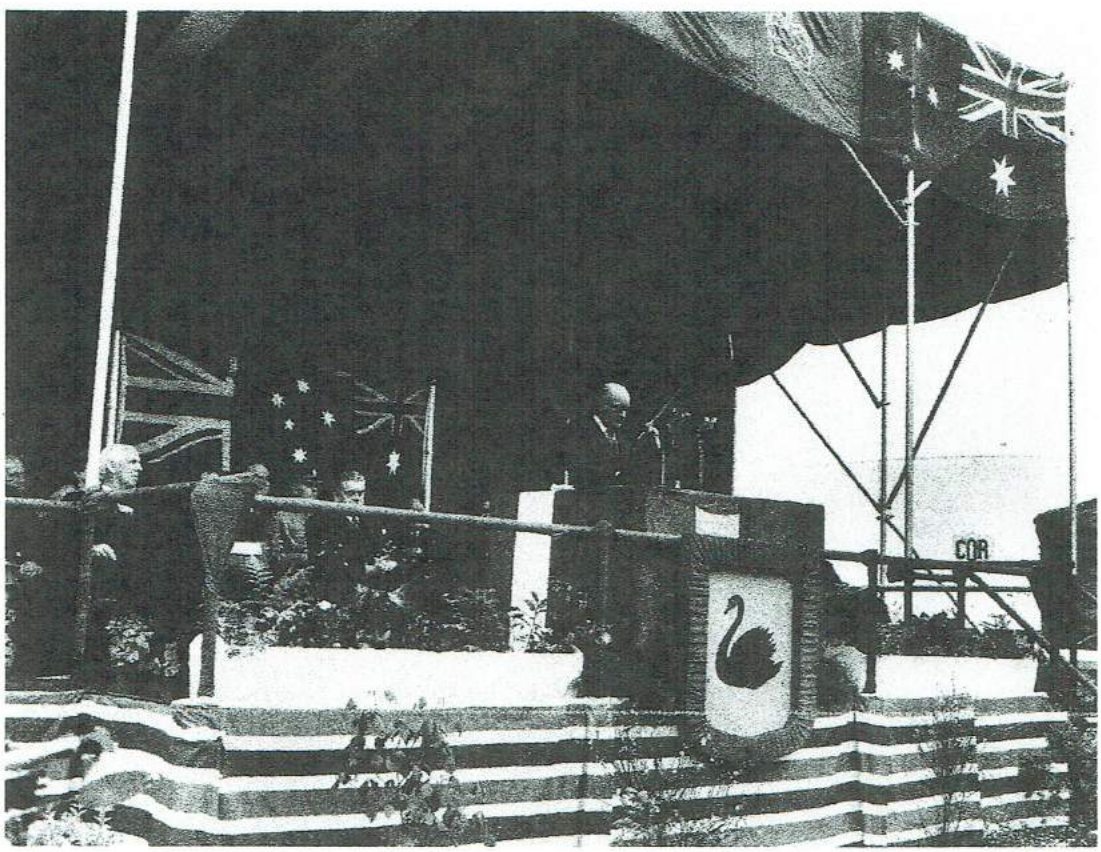
Kwinana townsite in foreground, refinery site in centre, Garden Island in the background. January 1954.



Refinery under construction



First tanker, British Crusader, at berth, January 1955.



Official Opening, October 1955.

APPENDIX C

ASSESSMENT OF SIGNIFICANCE

Historic Phase

The BP Kwinana Refinery was constructed in the period 1953-1955. It was the first major industrial plant established in the Kwinana area. The dredging of a four mile [6.5 km] 38 feet [11.6 m] deep channel through the Parmelia and Success Banks in Cockburn Sound commissioned by the Government of Western Australia enabled large oil tankers to deliver crude oil to the new refinery. The opening up of the Sound also permitted many new industries requiring marine facilities to be established.

Refer to Appendix B for details of the events leading up to the decision to build a refinery at Kwinana and the construction phase.

Historic Individuals

Refer to Attachments Nos. 2 and 3 for biographies of Sir Russell Dumas and Sir David Brand.

Creative or Technical Achievement

Being the first oil refinery established in Western Australia, coming 'on stream' at a time when the State was lagging behind the Eastern States in industrial development, the supply of hydrocarbon products from the Kwinana refinery was a material factor in the enormous mining development which commenced in the late 1950's which has made Western Australia one of the major entities in the Australian economy.

In drafting Western Australia's case for Commonwealth support of the proposed refinery, Premier McLarty expressed the view of many in Western Australia :

As you are aware, despite the most strenuous efforts, it has not proved possible to attract one large industry to Western Australia and relatively this State is falling still further behind the eastern states industrially. I know you agree that this condition of inbalance is not good for the nation.

[D R McLarty, Premier to Prime Minister, 8 October 1951. PWD File 2682/51, AN7 Acc 689]

The construction on a 'greenfields site' of a sophisticated £25 million oil refinery in two years, three and one half months ahead of schedule, with a multi national workforce peaking at 3500, with most of the specialised equipment being imported, was an impressive achievement by world standards.

Social

When the decision to build the refinery was taken the Government of Western Australia immediately commenced planning a town site to initially house construction workers and ultimately plant operators. Kwinana Townsite was formally gazetted in June 1953. Within its boundaries was the locality of Medina and it was here that the State Housing Commission handed over the first group of houses to BP in May 1953. Subsequently Medina continued to expand and further localities, Calista, Orelia and Parmelia, clustered around the Kwinana Town Centre, have been developed, with a full range of social, commercial and recreational facilities, to serve employees of BP and other industries. In the late 1950's and 1960's there was a large intake of British and European migrants attracted to opportunities as a result of Western Australia's rapidly expanding economy. Many of these newcomers settled in the Kwinana area.

Environmental

The WA Government's decision to put forward the Kwinana site as a location for the oil refinery was a wise decision. It meant that the established population centres of Perth and Fremantle were isolated from any adverse environmental issues from the refinery and the industrial plants which followed. As outlined in Appendix B the refinery itself has been engaged in a continual programme of improving its environmental performance.

Rarity, Integrity/Intactness

BP Kwinana Refinery is still the only oil refinery on the west coast of Australia. It has been considerably expanded and upgraded on its original site over its 50 year life as detailed in Appendix B.

References

	Publication	Author
1.	50 Years at Kwinana Draft of a history of BP Kwinana Refinery	Sue Graham Taylor
2.	BP Refinery Facts November 2002	BP Kwinana Refinery
3.	Development of the Kwinana Industrial Area	H.C.Morris, Paper presented at Engineering Conference Perth 1965
4	The Story of Kwinana Industrial Review and Mining Year Book, 1955	Commonwealth Oil Refineries

5.	Kwinana Industrial Area Economic Impact Statement April 2002	Sinclair Knight Merz
6.	BP Australia's Contribution to the Western Australian Economy	ACIL Tasman
7.	Australian Refinery Capacity Petroleum Refinery and Marketing In Australia	Library of the Parliament of Australia
8.	Australian Dictionary of Biographies	

Statement of Significance

BP Kwinana Refinery is an industrial plant of historic state significance and major economic state and national importance.

In the early post Second World War years Western Australia in economic terms was a mendicant state compared with its more prosperous eastern counterparts. The Western Australian Government's success in attracting the Anglo-Iranian Oil Company to build an oil refinery on the shores of Cockburn Sound was the catalyst for the later establishment of many new industries to the Kwinana area. With the subsequent lifting of the embargo on exports of iron ore and the discovery of oil and natural gas fields the Western Australian economy has expanded exponentially over the past fifty years to be a major contributor to the nation's wealth. There is little doubt that the ready availability of hydrocarbon products from the BP Kwinana Refienery materially assisted in the development and operation of the mining projects and the infrastructure necessary to access them. In 2004 it was estimated that the Kwinana Refinery contributed one per cent of the Gross State Product of $940 million. In turn for the 2003/2004 year Western Australia provided 26 % by value of Australia's total exports of goods and services.

Assessed Significance State and National

ATTACHMENTS

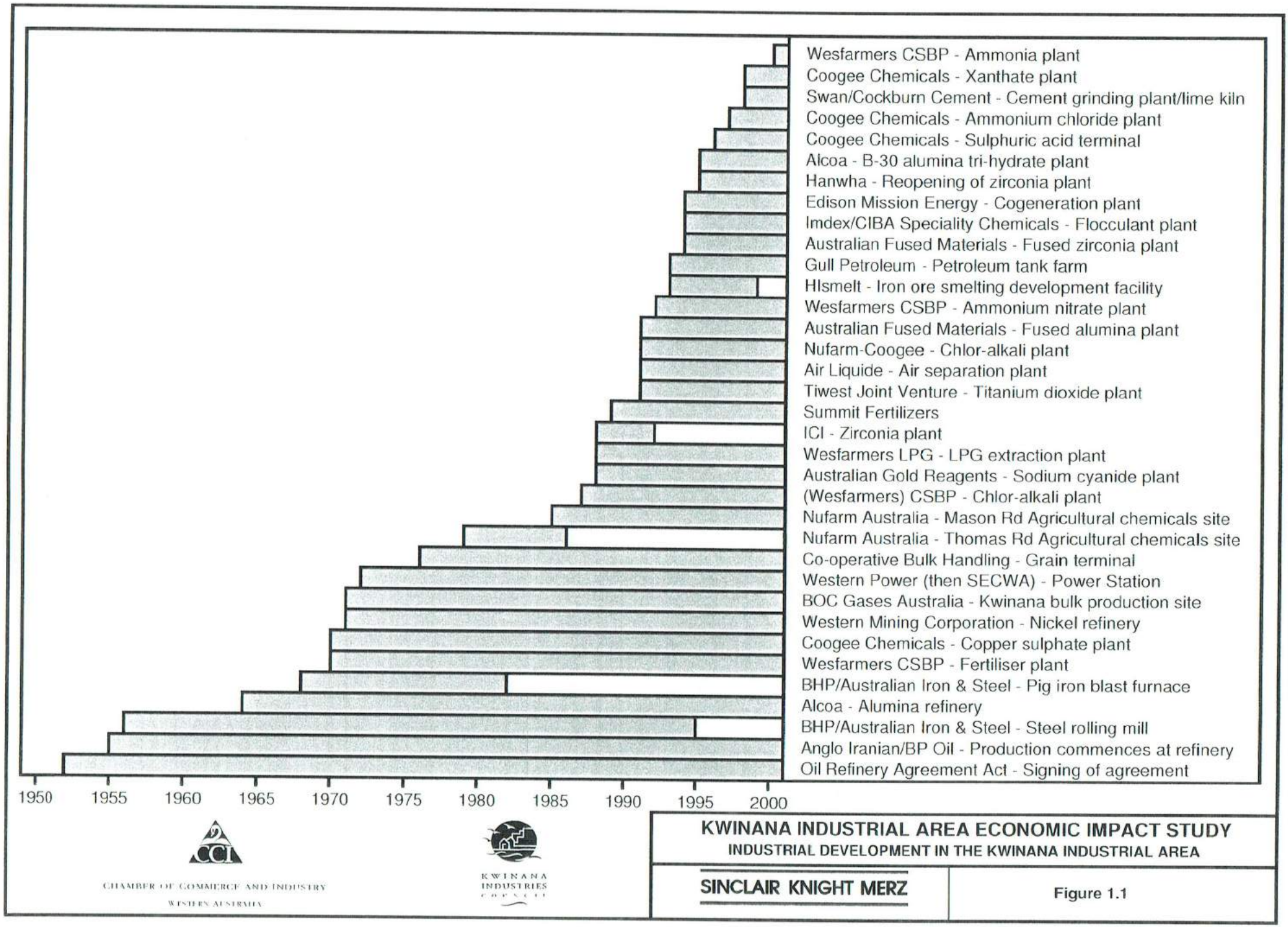
1. Kwinana Industrial Area Economic Impact Study

   Figure 1.1 : Industrial Development in the Kwinana Industrial Area

   Figure 1.2 : Study Area Showing Participating Industries

   Figure 3.4 : Industrial Integration in Kwinana in 2002

2. Biography of Sir Russell Dumas
3. Biography of Sir David Brand


Wesfarmers CSBP - Ammonia plant
Coogee Chemicals - Xanthate plant
Swan/Cockburn Cement - Cement grinding plant/lime kiln
Coogee Chemicals - Ammonium chloride plant
Coogee Chemicals - Sulphuric acid terminal
Alcoa - B-30 alumina tri-hydrate plant
Hanwha - Reopening of zirconia plant
Edison Mission Energy - Cogeneration plant
Imdex/CIBA Speciality Chemicals - Flocculant plant
Australian Fused Materials - Fused zirconia plant
Gull Petroleum - Petroleum tank farm
HIsmelt - Iron ore smelting development facility
Wesfarmers CSBP - Ammonium nitrate plant
Australian Fused Materials - Fused alumina plant
Nufarm-Coogee - Chlor-alkali plant
Air Liquide - Air separation plant
Tiwest Joint Venture - Titanium dioxide plant
Summit Fertilizers
ICI - Zirconia plant
Wesfarmers LPG - LPG extraction plant
Australian Gold Reagents - Sodium cyanide plant
(Wesfarmers) CSBP - Chlor-alkali plant
Nufarm Australia - Mason Rd Agricultural chemicals site
Nufarm Australia - Thomas Rd Agricultural chemicals site
Co-operative Bulk Handling - Grain terminal
Western Power (then SECWA) - Power Station
BOC Gases Australia - Kwinana bulk production site
Western Mining Corporation - Nickel refinery
Coogee Chemicals - Copper sulphate plant
Wesfarmers CSBP - Fertiliser plant
BHP/Australian Iron & Steel - Pig iron blast furnace
Alcoa - Alumina refinery
BHP/Australian Iron & Steel - Steel rolling mill
Anglo Iranian/BP Oil - Production commences at refinery
Oil Refinery Agreement Act - Signing of agreement
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
CCI
CHAMBER OF COMMERCE AND INDUSTRY
WESTERN AUSTRALIA
KWINANA
INDUSTRIES
COUNCIL
KWINANA INDUSTRIAL AREA ECONOMIC IMPACT STUDY
INDUSTRIAL DEVELOPMENT IN THE KWINANA INDUSTRIAL AREA
SINCLAIR KNIGHT MERZ
Figure 1.1

Sir David Brand (1912 – 1979)

David Brand was born in Dongara, Western Australia and educated at Mullewa State School WA.

He joined the AIF in 1939 and was wounded when serving in Greece in 1941. After his discharge from active service in 1942 he served as a sergeant in the Volunteer Defence Corps until the end of the war in 1945.

He joined the Liberal Party in 1944 and won the State seat of Greenough in a 1945 by-election, holding the seat until he retired thirty years later in 1975.

In April 1950 he became Minister for Works, Water Supply and Housing in the McLarty Liberal – Country Party Coalition Government. After the defeat of the coalition in 1953 he became deputy leader of the Opposition and, on McLarty's retirement, Opposition Leader from March 1957. When the Coalition regained power in 1959 he became Premier, Treasurer and Minister for Tourism, positions he held until March 1971. His eleven years, eleven months and one day as Premier exceeded by more than one year Sir John Forrest's record. He was appointed a KCMG in 1969.

David Brand presided over one of the most exciting periods of development in Western Australia's history. His partnership with the then Minister for Industrial Development, Charles Court, proved exceptionally successful. In 1960 the Commonwealth lifted its embargo on the export of iron ore, enabling exploitation of large deposits in the Pilbara.

However in later life he described his work with Sir Russell Dumas to secure the 1952 agreement with Anglo – Iranian Oil Company to establishment the Kwinana refinery as the highlight of his career.

His Government was narrowly defeated at the polls in 1971, Sir David stepped down as Leader of the Opposition in 1972 and he retired from Parliament on 21 August 1975. He died on 15 April 1979.

Sir Russell John Dumas (1887-1975)

Sir Russell John Dumas was born in South Australia and was educated at the University of Adelaide. He graduated in 1909 and joined the South Australian Engineer-in-Chief's Department. After war service in France he returned to the department in 1919 and worked on the construction of the River Murray locks and weirs. In 1925 he joined the Metropolitan Water Supply Sewerage & Drainage Dept in Western Australia, and worked on the construction of the Churchman Brook Dam. He transferred to the Public Works Department, and worked on the design of the Drakesbrook and Wellington Dams, and the raising of Harvey Weir, under B.S. Crimp, the PWD Hydraulic Engineer. He was responsible for the design of the Canning Dam and for supervising some of the early work on its site. He was appointed Engineer for Metropolitan Water Supply and Sewerage and directed the remainder of the construction of the Canning Dam for that department.

In 1941 he became Director of Buildings and Works and also Chief Hydraulic Engineer. After an investigation of the potential of the north - west for closer settlement in 1941-2, he recommended irrigation based on two potential dam sites on the Ord River. He was appointed Chairman of the North-West Development Committee and was a strong advocate for the development of the Ord River Irrigation Scheme.

During the war he served as liaison officer between the Allied Works Council and the state government departments. He also served as Regional Controller of Electricity and in 1946, became first Chairman of the State Electricity Commission. After the war he directed the completion of the Stirling Dam (for the Harvey Irrigation Scheme) and also the raising of Mundaring Weir and Wellington Dam, the two headworks for the Comprehensive Agricultural Areas Water Supply Scheme, for which he was largely responsible for obtaining federal funding.

In 1951–52 Dumas was largely responsible for negotiating the establishment of the Anglo-Iranian Oil Company's BP oil refinery and other key industries at Kwinana, south of Fremantle. Because of his crucial part in establishing these industries, he was given the additional title of Coordinator of Works and Industrial Development. He retired in December 1953, but remained influential as an adviser to the Brand – Court government. He was knighted for services to the state.

Dumas has the unusual distinction of having been closely connected with four of the twenty-five Australian dams nominated for heritage recognition. The four are the Murray River Weirs, Canning Dam, Mundaring Weir and the Ord River Dam.

HISTORIC ENGINEERING MARKER

BP KWINANA OIL REFINERY

THE BP KWINANA OIL REFINERY, CONSTRUCTED BY THE ANGLO – IRANIAN OIL COMPANY LIMITED, COMMENCED OPERATIONS IN 1955. IT WAS THEN THE LARGEST OIL REFINERY IN AUSTRALIA. IN 1952 – 1955 THE WA GOVERNMENT DREDGED A 11.6 METRE DEEP CHANNEL THROUGH THE PARMELIA AND SUCCESS BANKS TO ALLOW TANKERS AND OTHER LARGE VESSELS TO ACCESS COCKBURN SOUND. BEING THE FIRST MAJOR INDUSTRY LOCATED IN THE KWINANA AREA THE BP OIL REFINERY HAS HAD A SIGNIFICANT IMPACT ON THE ECONOMIC DEVELOPMENT OF WESTERN AUSTRALIA OVER THE PAST 50 YEARS.

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2005